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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/474,766	12/30/99	IMOEHL	W 051252-5028

009629
MORGAN, LEWIS & BOCKIUS
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WASHINGTON DC 20036-5869

QM02/0626

EXAMINER

KIM, C

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 06/26/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/474,766

Applicant(s)

Imoehl

Examiner

Christopher S. Kim

Group Art Unit

3752



☒ Responsive to communication(s) filed on 30 Dec 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-17 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-17 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on 30 Dec 1999 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: on page 4, line 23, "70"; on page 4, line 29, "72" and "74"; on page 5, line 9, "84". Correction is required.

Specification

2. The disclosure is objected to because of the following informalities: throughout the specification, "inlet portion of a body 60" should read --inlet portion 60 of a body 52--; throughout the specification, "outlet portion of the body 62" should read --outlet portion 62 of the body 52; on page 4, lines 25 and 29, "funnel" is used to describe both reference signs "82" and "74"; on page 4, line 25 and on page 5, line 4, "funnel" and "central aperture" both describe reference sign "82" .

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to

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make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 5, 6 and 10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claim 5, the specification does not disclose a first surface of a swirl generator disk being adjacent an armature nor a first surface of a guide disk adjacent an armature. Regarding claim 10, the specification does not disclose a first surface of a swirl generator disk adjacent an inlet portion of a body nor a first surface of the guide disk adjacent an inlet portion of a body.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 8, 9, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano in view of Matsuoka et al.

Asano discloses a fuel injector comprising: a body 22 having an inlet portion 48, an outlet portion (downstream of 48); a neck portion (where stopper 30 is located); an armature 32; a

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seat 25 having a first face (adjacent stopper 30), a second face (opposite end of seat 25 from the first face), and a circumferential surface including a first zone (vertical region where 25 indicates), a second zone (region of seat 25 contacting region 22d), and an intermediate zone in between; a seal 29; and a retention member 22a (inherently crimped). Asano does not disclose the seal acting as a thermal isolator. Matsuoka et al. disclose, as prior art, a rubber seal 24 which functions as a heat insulator (column 1, lines 52-55). It would have been obvious to a person having ordinary skill in the art at the time of the invention to have replaced the seal of Asano with the seal of Matsuoka et al. to seal and isolate the seat from the body.

7. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano and Matsuoka et al. as applied to claims 1 and 12 above, and further in view of Virchow.

Asano and Matsuoka et al. disclose the limitations of the claimed invention with the exception of polytetrafluoroethylene. Virchow discloses, in column 3, lines 28-31, polytetrafluoroethylene as a insulating material with a high melting point. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have made the seal of Asano and Matsuoka et al. out of polytetrafluoroethylene as taught by Virchow for the ease in shaping of polytetrafluoroethylene.

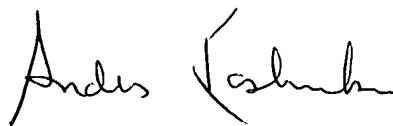
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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Phatak discloses a valve seat with first, second, and intermediate zones. Malinowski discloses heat insulators. Ren et al. and Brinn, Jr. disclose swirl generators.
9. Applicant should not misconstrue lack of art rejection as an indication of allowable subject matter.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (703) 308-8336. The examiner can normally be reached on Monday-Thursday from 6:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andres Kashnikow, can be reached on (703) 308-1137. The fax phone number for this Group is (703) 305-3588.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



ANDRES KASHNIKOW
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

6/23/00

CK

June 21, 2000